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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,365	01/14/2002	Karl-Heinz Dorner	Mo6657/LeA 34,814	5079
157	7590	02/20/2004	EXAMINER	
BAYER POLYMERS LLC 100 BAYER ROAD PITTSBURGH, PA 15205			TRAN, THAO T	
			ART UNIT	PAPER NUMBER
			1711	
DATE MAILED: 02/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/047,365	Applicant(s) DORNER ET AL.	
	Examiner Thao T. Tran	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Remarks

1. This is in response to the Remarks received on December 10, 2003. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.
2. Claims 1-11 are currently pending in this application.

Claim Rejections - 35 USC § 112

3. In view of the prior Office action of September 10, 2003, the rejection of claim 11 under 35 U.S.C. 112, second paragraph, has been withdrawn due to further consideration.

Claim Rejections - 35 USC § 102

4. In view of the prior Office action of September 10, 2003, the rejection of claims 1-6 and 9-11 under 35 U.S.C. 102(b) as being anticipated by Anderson et al. (US Pat. 4,830,038) or Anderson et al. (US Pat. 5,008,062), has been withdrawn due to further consideration.

Claim Rejections - 35 USC § 103

5. In view of the prior Office action of September 10, 2003, the rejection of claims 8-9 under 35 U.S.C. 103(a) as being unpatentable over Anderson '038 and Anderson '062, has been withdrawn due to further consideration.

NEW REJECTION

Election/Restrictions

6. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8, drawn to a solar module, classified in class 428, subclass 423.1.
 - II. Claims 9-11, drawn to a process for making a solar module, classified in class 204, subclass 192.28.

The inventions are distinct, each from the other because of the following reasons:

7. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a different process, such as spraying polyurethane to the solar cells.
8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
9. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
10. During a telephone conversation with Ms. Lyndanne Whalen on January 29, 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-8. Affirmation of this election must be made by applicant in replying to this Office action. Claims

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9-11 has been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

11. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Note

12. The examiner is interpreting "composed of" in claim 1, line 3, as open claim language.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaverka et al. (US Pat. 5,667,595).

Vaverka teaches a solar module, comprising solar cells placed between a front plate and a rear support plate, and a polyurethane layer between the solar cells and each of the front and rear

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plates (see abstract; col. 1, ln. 7-11; claim 1). Hence, the polyurethane layers are part of the front side and the rear side.

In regards to claims 1-2, Vaverka teaches that the polyurethane to be transparent (see col. 2, ln. 50).

In regards to claim 3, Vaverka teaches that the rear side comprising a glass plate (see col. 3, ln. 28-30).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaverka as applied to claim 1 above, and further in view of Shiomi et al. (US Pat. 6,245,987).

Vaverka is as set forth in claim 1 above and incorporated herein.

Vaverka teaches the polyurethane containing various additives (see col. 3, ln. 9-10).

However, the reference does not teach the rear side being composed of opaque polyurethane, or the opaque polyurethane containing a filler, such as chalk, glass platelets, or silicates.

Shiomi teaches a solar module 100 having a rear material 107, wherein the rear material is composed of a combination of materials such as polyurethane, asphalt, glass wool, calcium silicate (see Fig. 1; col. 6, ln. 9-10; col. 10, ln. 36-38; col. 11, ln. 8-11, ln. 16-18), making the polyurethane opaque. Shiomi further that the use of these materials in the rear side would

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provide high thermal insulation effects, which would facilitate the annealing effect in order to enhance performance (see col. 11, ln. 18-21).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have employed the material, as taught by Shiomi, in the rear side of Vaverka's solar module, for the purpose of improving durability, cost, and workability (see col. 10, ln. 36).

17. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaverka as applied to claim 1 above.

Vaverka is as set forth in claim 1 above and incorporated herein.

Although Vaverka does not teach the front side as having a textured surface or the rear side being in the form of cooling fins, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the front side such that it would have had a textured surface for the purpose of increasing light absorption. And having the rear side being fin-shaped would increase the surface area, enhance dissipation of heat, and hence would increase the efficiency and lifetime of the solar module. Moreover, Applicants do not disclose any advantages of having a front side with textured surface or the rear side with fin shape over other shapes of the surfaces.

Response to Arguments

18. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thao Tran

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February 13, 2004